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PROFILES IN soil health

Joe Kriegel

Brooklyn, Iowa

2,000 acres

Crops: corn, soybeans, cover crops

Planting: no-till

Covers: cereal rye, clover, oats, sorghum

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Ahead of Cover Crops Trend.

The number of cover crop acres has increased dramatically over the past five years in Iowa – from less than 10,000 acres in 2009 to about 300,000 acres this fall. One Iowa farmer who is helping to increase that number is Joe Kriegel who farms and grows cover crops on more than 2,000 acres in Poweshiek County with his three sons, Patrick, Nicholas, and Jared.

The Kriegels impact on the Iowa cover crop revolution doesn't stop there. They also harvest cereal rye, red clover, sorghum and other cover crop varieties for use by local farmers. Joe Kriegel estimates seed from his farms will account for about 4,000 extra cover crop acres this year.

"Like so many farmers, I started using cover crops for erosion control," he said. "I grew tired of smoothing the rills and gullies every year. I wish I started using cover



Kriegel grew a complete annual rotation of cereal rye and red clover. He harvested seed off the cereal rye and baled the red clover.

crops 40 years ago."

And like so many farmers, Kriegel is finding that cover crops can do more than just control soil erosion. Cover crops increase organic matter in the soil and improve overall soil health by adding living roots in the ground for more months of the year. Certain types of cover crops like radishes help water infiltration, and others like cereal rye

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Joe Kriegel, Iowa

serve as savings accounts for nitrogen which provide nutrients for upcoming crops.

Kriegel was wise enough to get on the front-end of the cover crops trend. By 2009, he grew 1,200 acres of cereal rye and has grown at least that many acres every year since. For the first time in 2013, he is covering every acre with cover crops.

Improving the soil

He calls a couple of his fields “the poorest performing in Poweshiek County,” due to over-tillage in the 1960s and 70s. Kriegel feels he can heal these fields using cover crops in a three-year rotation with corn and soybeans.

One of those fields is 160 acres, just south of Interstate 80, near Malcom. Kriegel followed his 2012 soybean harvest by drilling in cereal rye. He harvested the cereal rye seed and sold the remaining straw. After that he frost-seeded clover, but grew only about a bale per acre during the dry summer. “Typically, I would get three round bales per acre from clover in a year,” he said. Next year Kriegel will plant corn on that field.

Kriegel says that particular field has a Corn Suitability Rating (CSR) of about 50, while the countywide average is near 80. “If I continue to use cover crops in a three-year rotation combined with no-till, I think I can increase yields here like a 70 CSR field within five years,” he said.

After growing cover crops for several years, Kriegel is committed to keeping his cropland covered year-round with a living root system. “The worst thing you can do to a piece of land is leave the soil bare,” he said. “The soil doesn’t function unless something is actually growing.”

Kriegel says when he grows legume cover crops for an entire annual rotation, he may only need half the nitrogen he would normally apply for the following corn crop, helping his bottom line.



The Kriegel family stands in a 160-acre red clover field in Poweshiek County. The Kriegels (from left): daughter-in-law Candace, granddaughter Scarlett, son Patrick, Julie and Joe.

Cover crops reduce conservation practice maintenance

He says his cover crop/no-till combination is also saving him money on conservation practice maintenance. Kriegel re-shaped all of his grassed waterways on one of his fields six years ago. Today, he says they are just like the day he re-shaped them.

On his red clover field, Kriegel says the waterways were shaped 12 years ago. “After that long, a waterway will oftentimes have gullies running down the sides,” he said. “This farm has no gullies along the waterways. I think they will last another 20 years.”

“I love what no-till and cover crops are doing for the health of my soils,” said Kriegel. “My fields just keep getting smoother and smoother and smoother.”

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